

IN THE CLAIMS

We claim:

21. (New) A device for the modification of a layer of target material comprising:
A source of electromagnetic radiation; and
an intermediate substance having high absorption of at least one frequency band emerging from said source of electromagnetic radiation positioned between the target material and the source of electromagnetic radiation, the intermediate substance being in contact with the target material;
whereby when the intermediate substance is irradiated by said electromagnetic source, the energy is converted to thermal energy sufficient to bring about modification in the target material.

22. (New) The device of claim 21 wherein the intermediate substance is a suspension containing high absorbing particles.

23. (New) The device of claim 21 wherein the intermediate substance is a thin film containing high absorbing particles.

24. (New) The device of claim 21 wherein the intermediate substance is a thin film containing high absorbing particles in a quantity that causes substantially all of the electromagnetic energy to be converted into heat and at least 25% of the thermal energy is conducted into the target material.

25. (New) The device of claim 21 wherein the intermediate substance is a paper containing a highly absorbing substance.

26. (New) The device of claim 21 wherein the intermediate substance is a 40 weight tracing paper containing a highly absorbing substance.

27. (New) The device of claim 21 wherein the intermediate substance is an 80 weight tracing paper containing a highly absorbing substance.

28. (New) The device of claim 21 wherein the intermediate substance is made of agar containing highly absorbing particles.

29. (New) The device of claim 21 wherein the intermediate substance is a solid mixture containing highly absorbing particles.

30. (New) The device of claim 21 wherein the intermediate substance is a thermally insulating solid mixture containing highly absorbing particles constructed so it (??) that at least some of the electromagnetic energy absorbed and converted into thermal energy is transferred to the target material.

31. (New) The device of claim 21 wherein the intermediate substance is a liquid mixture containing highly absorbing particles.

32. (New) The device of claim 21 wherein the intermediate substance is a gas mixture containing highly absorbing particles.

33. (New) The device of claim 21 wherein the intermediate substance is a thermal insulator containing highly absorbing particles.

34. (New) The device of claim 21 wherein the intermediate substance is a layer of thermal conductor containing highly absorbing particles.

35. (New) The device of claim 21 wherein the intermediate substance is a metallic layer containing highly absorbing particles.

36. (New) The device of claim 21 wherein the intermediate substance is a teflon layer containing highly absorbing particles.

37. (New) The device of claim 21 wherein the intermediate substance has the high absorption particles applied on the side facing the energy source and not to the side which is in contact with the target material, the intermediate substance transferring at least some of the incident electromagnetic energy to the target material.

38. (New) A method for modification of a layer of target material comprising the steps of:

generating a directional burst of electromagnetic energy;
directing the electromagnetic energy burst towards an intermediate substance having high absorption of at least one frequency band in the burst of electromagnetic energy, the intermediate substance being positioned between the target material and the burst of electromagnetic energy, and being in contact with the target material, thereby allowing transfer of thermal energy to the target material.

39. (New) The method of claim 38 wherein the intermediate material is a thin insulating material mixed with grains of material capable of absorbing at least one frequency band of the electromagnetic energy.

40. (New) The method of claim 38 wherein the intermediate material is a conducting material with an absorbing substance applied to the side facing the burst of electromagnetic energy.

41. (New) The method of claim 38 wherein the intermediate material is mixed with grains of conducting material to form a film that is thermally conducting and optically absorbing.

42. (New) The method of claim 38 wherein the intermediate material is mixed with grains of conducting material to form a film having a predetermined pattern of thermal conductivity and optically absorbing.